U-42-8

14-8

~~TOP SECRET~~

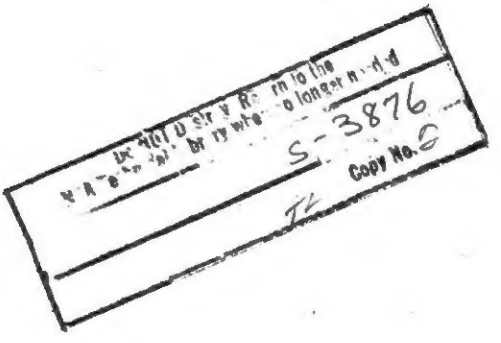
ARMY SECURITY AGENCY

122/49/TCPSEC/AS-14

Copy No. 6

From: CSGAS-14

To: AFSA 02A7



~~TOP SECRET~~

DF 187 D

122/49/TOPSEC/AS-14

RELATIONS OF OKW/CHI WITH FOREIGN CRYPTOLOGIC BUREAUX

1. During his period of detention (September - December 1946) at the Hq 7707 European Command Intelligence Center, Oberursel, Germany, Wilhelm FENNER, former Ministerialrat and chief of cryptanalysis in the Armed Forces High Command Cryptologic Agency (OKW/Chi), wrote a lengthy report concerning his past career and his extensive experiences in the field of cryptology. This report was never issued in translation although an inadequate summary by Army Security Agency was issued as TICOM/I-206.

2. It is presently planned to issue a complete translation of the entire report in the DF series (DF-187). The attached translation is the fifth of the series and is FENNER's description of the relation of OKW/Chi with foreign cryptologic bureaux.

3. Previous TICOM reports of this series are:

DF 187 The Career of Wilhelm FENNER with Special Regard to His Activity in the Field of Cryptography and Cryptanalysis

DF 187A Organization of the Cryptologic Agency of the Armed Forces High Command, with Names, Activities, and Number of Employees Together with a Description of the Devices Used

DF 187B The Cryptanalytic Successes of OKW/Chi after 1938

DF 187C Relations of OKW/Chi with Other German Cryptologic Bureaux

December 1949

Translated: RWP

Distribution: Normal

35 copies

15 pages

TABLE OF CONTENTS

		Page
A.	Preliminary Remarks	1
B.	Relations with Hungary	1
C.	Relations with Finland	3
D.	Relations with Italy	5
E.	Relations with Japan	9
F.	Relations with Croatia	10
G.	Relations with Bulgaria	12
H.	Relations with Roumania	13
I.	Relations with Spain	13
J.	Relations with Esthonia	14
K.	Concluding Remarks	14

RELATIONS OF OKW/CHI WITH FOREIGN CRYPTOLOGIC BUREAUX

A. Preliminary Remarks

The relations of the German Cryptologic Bureau (Chi) to the Hungarian, Austrian, Finnish, Esthonian, Italian, Japanese, and Croatian cryptologic bureaux have already been described with respect to the type and extent of these mutual ties[1] so that the present report may be limited to giving supplemental material.

B. Relations with Hungary

From a political point of view it is fascinating to note that this connection was the direct result of a categorical refusal by the Ballhausplatz[2] after Chi had made a vain attempt to make contact with the Ballhausplatz. But even at that time, that is early in the 20's, it turned out favorably for the work itself that there were personal connections between the cryptanalytic sections of the Ballhausplatz and of the Honvedministerium:[3] thus Budapest learned of the advances of the German Cryptologic Bureau toward Vienna, of the rejection by Privy Councillor (Hofrat) Dr. KLOB, and of the return of First Lieutenant (Oberleutnant) BUSCHENHAGEN (Cryptologic Bureau Ministry of Defense) to Berlin without success. Budapest had fewer inhibiting prejudices, it decided to involve itself in the matter, and sent the director of the Cryptologic Bureau, Colonel Wilhelm KABINA accompanied by Colonel POKORNY, who was very well known in military circles, to Berlin and there within a few minutes reached an agreement with Chi on the basis of common work on Italian state telegrams (at that time all in plain code) and of an exchange of the necessary material including code groups and special observations. Not a word was said about working on other countries or about any exchange of messages because the exchange of solved code groups was already [illegible] that nothing else was thought of for the time being. The agreement itself was

---

1. In the oral interrogations (TICOM/I-200, para. 1).
2. The Foreign Office in Vienna, location of the Austrian cryptologic unit.
3. The Hungarian cryptanalytic section was under the Honvedministerium.

confirmed by a written compact in which there was merely the mutual condition that this compact could be kept secret from third parties and that the contracting parties of the so-called "Berlin Agreement" should be informed before any extension of these relations to third parties. This agreement remained in force for over twenty years without ever having been violated. That out of the common interest in Italy there arose a collaboration in all other fields goes without saying. For the value of the connection with Berlin was obvious: the code books could be solved much more quickly; concepts which were specific in Hungary or Berlin and had caused the [other] contracting party difficulty in its work of solution were solved by the national cryptologic bureau, missing telegrams could be supplied, at least within certain limits; in short, this cooperation had the same result as if each unit had received without expense a number of new cryptanalysts and intercept operators! Nevertheless one is not unjustified in putting the question whether Budapest was really such an extraordinary collaborator. For it is no secret to any military critic that there are certain essential differences in the overall attitude of the Hungarian and the German! And when on the basis of such acquaintance with their psychology the question is raised, what really made Budapest so valuable to the [German] Cryptologic Bureau and [later] to the Cryptologic Agency the answer can only be: the excellent Hungarian radio intercepts, in particular those from the entire Balkan area! Certainly Budapest also helped out with its interpretations of groups but almost never with its solutions of reencipherments since for the most part these had already been solved in Berlin. It could not be denied that the Berlin tempo was livelier because they worked more diligently there, but that would have been the case even without Budapest. But without Budapest Berlin would have had to do for almost two decades without first-class cable and radio intercepts. I make mention of the uni[illegible] in which occasional tensions of major policy could change nothing. Both contracting parties had recognized that in such a field collaboration in and of itself is already an expression of unreserved frankness and obvious honesty because the contracting parties are constantly in a position to check one another. The directors or chiefs of the Hungarian cryptanalytic unit were:

Colonel (Oberst) later General (General) Wilhelm KABINA, from the early 20's to the middle 30's. Then for a few months Lieutenant Field Marshal (Feldmarschalleutnant) (rtd) Wilhelm (?) POKORNY who had made a good name for himself as a clever cryptanalyst of Russian army radiograms during the First World War; then Colonel (Oberst) later General (General) Istvan von PETRIKOVITS until the collapse.

I recall likewise the following persons in the cryptanalytic units:

Colonel (Oberst) Franz HARMONY, Serbia, Bulgaria, and Croatia.

Colonel (Oberst) Karl (?) RADDA, Denmark, Czechoslovakia.

General (General) PAWLAS, Roumania.

Lieutenant Colonel (Oberstleutnant) SZALLAY, France.

Lieutenant Colonel (Oberstleutnant) Michael HRCIC, Edler Herr von STARY GORY, special field not known.

The two Majors (Majore) ERDOES (brothers), Italy.

Colonel (Oberst) POGANY, temporary, Poland.

Lieutenant Colonel (Oberstleutnant) von ANDREANSZKY, Poland (?).

Ministerial Government Councillor (Ministerialrat) Dr. von UJFALUSSY, England and America.

C. Relations with Finland

While there was a connection during the First World War between the German and the Austro-Hungarian cryptanalytic units, and in view of this, Hungary was able to decide on collaboration with Chi, the causes of the collaboration with Finland which began in 1927 are to be found in a fact which cannot be denied in the history of the young Finnish Armed Forces: the actual spiritual germ was the Royal Prussian Jaegerbataillon 27 in which Finnish patriots destined for later military leadership were fighting against Soviet Russia. From this Jaegerbataillon were recruited the first [illegible] of high rank. It was in connection with this tradition, therefore, that the first feelers were put out in Helsingfors looking toward collaboration in the field of cryptanalysis. That these conversations brought results may well have been due to my then Chief, Rudolf SCHMIDT, Major in the General Staff and later Director of the War Academy. When I was detailed to Helsingfors in

June 1927 there could be no talk of a Finnish cryptologic bureau; there were as yet no intercept stations, no intercept operators, no cryptanalysts, no apparatus, and no work rooms. All these things were created extraordinarily quickly later on so that in some three years there was a well adjusted organization and it was possible to work with Helsingfors as an equal partner. The center of interest in this collaboration lay naturally in the Soviet Russian field, hence it was here that the first inquiries and the first exchang of information of all sorts took place, in which connection it soon turned out that Helsingfors was quite capable of working independently and had already stretched out feelers toward Reval.[4] Until the tragic outcome of the Russo-Finnish Winter War Chi Berlin and Chi Helsingfors were tied together almost solely by Russian cryptographic systems and everything which was necessary to improve reception. With the greatest caution, but also with comprehensible consistency the relations were maintained on both sides during this war, even when HITLER for political considerations forbade any support of Finland. After the end of the so-called "Winter War", Finland expanded its range of interest materially and now there resulted that close collaboration which I have described elsewhere[5] and in which, in contrast to Budapest, it was not so much the intercepts from Helsingfors which played the decisive role as it was the exact and successful cooperation in the field of practical cryptanalysis.

As the only director and later chief of the Finnish cryptologic bureau I have known only Colonel (Oberst) HALLAMAA, who in this capacity rose through all ranks from First Lieutenant (Oberleutnant) on. In Berlin I became fleetingl acquainted with the chief analyst Dr. PAHLE (PALLE ?), and at the Army High Command Cryptologic Agency in Loetzen I met a First Lieutenant (Oberleutnant) MIEK-OJA. Originally (1927) a certain Dr. NIEMIKEN was Russian cryptanalyst in Helsingfors; I am not informed regarding his later fate. Since I have been in Helsingfors only a single time I never saw HALLAMAA more than for a minute at a time; I am not well informed regarding the extent of the Finnish cryptologic

4. Now Talinn, capital of Esthonia.
5. Presumably in the oral interrogation (TICOM/I-200).

bureau. Ostensibly the direction of theoretical and practical cryptanalysis was during the last years, in the hands of a woman. Government Councillor (Regierungsrat) SCHULZ (of my unit) could probably give details regarding the organization as a whole because he was detailed to Finland in 1943 or 1944 in order with Professor Dr. FRANZ as theoretical man to clarify the solution of the American (strip) systems. The cryptologic bureau of the Finnish General Staff was located during the last war in Mikkeli. As to the whereabouts of HALLAMAA and his associates I have heard nothing positive since the capitulation of Finland. There was a rumor that HALLAMAA had escaped to Swedish territory.

D. Relations with Italy

When the chief of the Italian cryptologic bureau of the General Staff arrived in Berlin about the summer of 1938, there was not a single person in OKW/Chi who was not surprised at this visit. In the course of years the rumor that Rome also did cryptanalytic work had become accepted as a fact but without seeking Italy's collaboration no one had expected the Italians to take such an initial step. When Brigadier General Vittorio GAMBA arrived in Berlin he went at once to the director of Chi, Lieutenant Colonel BOETZEL. Only now and for reasons of competency was the Army Inspectorate of Signal Troops (Inspektion der Nachrichtentruppen) informed as well as the Abwehr (Counterintelligence) and the Attache group. The sojourn of General GAMBA, which lasted barely two days, led to an agreement to try mutual work in the French field. From hints dropped by the General it was clear that Rome still had a great many wishes in the French field whereas in the Yugoslav field it was independent and needed no assistance. So only France was urgent: diplomatic and Army! In the course of conversations it came out that the German Navy had been for years on the best of terms with the Italian naval cryptanalysis which fact had induced the General to explore the possibilities directly with Chi. So the case was adequately explained. General JUPPE of the Army Inspectorate of Signal Troops (Inspektion der Nachrichtentruppen) as responsible superior gave his approval of collaboratic and Admiral CANARIS was also agreeable. Thus there was nothing standing in the way of a promising cooperation except the fact that Rome adhered only superficial

to the agreement for an exchange of traffic and code groups: the courier dispatches remained lying without any obvious reason in the office of the Italian counterintelligence liaison officer, Baron FIORIO; no answer came to our questions; instead French code groups were sent back which Chi had recently sent to Rome. Into this state of vexatious disorganization there burst unexpectedly the resentment of circles around the Chief of the Armed Forces High Command (OKW) who were by no means satisfied with the Roman agreement! JODL claimed he had not been informed; JUPPE could not even recall having met General GAMBA; CANARIS stated rightly enough that the whole affair was no concern of his, but whoever had said A in this situation had to say B too. And now General FELLGIEBEL assumed full responsibility but made the single condition that there should be frank honest collaboration as there was with Budapest and Helsingfors. In Rome they knew nothing of such a crisis but were thinking only of getting as prompt help as possible against France, on both Army and diplomatic traffic. In this situation I was sent with Employee (Angestellte) TRAPPE to Rome in order (a) to organize the collaboration and (b) to have TRAPPE give the necessary explanations and documents for working on French diplomatic and Army cryptographic systems. In spite of impeccable social form, GAMBA throughout the entire 10 to 14 days remained very reserved in all matters relating to the work. On his desk lay not a single piece of paper from which an inference might have been drawn as to what went on in the office! I got the following impression of the organization as a whole: with the exception of the Navy the Italian Armed Forces had far too few trained intercept operators. An intercept plan for monitoring foreign high-powered transmitters and the high military staffs of foreign countries existed only on paper; there was no need of anything else since as yet there was no one who could have carried out any reasonable and exact intercept work. They were reading a few plain codes of the French Government, the plain English and American codes, but remarkably enough the reenciphered Yugoslav codes, the solution of which presupposed not merely patience but some real ability. Moreover, the Swedish Government code was being read which had caused Chi in Berlin extraordinary difficulties! Further questioning on my part then revealed the fact that the Italian

cryptologic bureau had a far more lucky hand than the German Abwehr in the procurement of foreign code books: for Rome had the Swedish code "tutto completto", and likewise a Turkish code on the solution of which Berlin was having to work industriously. The solution of the Yugoslav system still remained a riddle, all the more so since the expert did not impress one as especially intelligent. In the following period the courier connection became better and Rome itself noticed that the regular exchange of traffic and code groups as well as of reenciphernents was profitable. Consequently the requests sometimes became greater: Rome's weak point still remained France and its own cryptographic systems! Rome requested aid in the French field, Berlin insisted on a change in the Italian Army systems because what Rome afforded in this area was not tolerable from a military point of view. Years before, a revision of the Italian naval cryptographic systems had been undertaken at the request of the German Government; now there was an indisputable danger that important tactical or even strategic information would become known to the Allies through cryptanalysis of Italian Army radiograms. When I was again sent to Rome exclusively to get this matter straightened out (December 42) I could not fail to notice a resistance to the German demands: the deadline for presenting samples of encrypted text was not met; there was postponement from day to day, even from hour to hour! I do not mean to assert that Rome was intentionally carrying on sabotage; no, in my opinion these demands were at that time really too great for a country which supposedly had no illiterates but also had no signal troops, no signal corps in which there could possibly be enough people for whom working with pencil and paper was not something unusual. But an aversion to the unambiguous results of German analysis made itself manifest so that a tension developed which could naturally only lead to estrangement. The [illegible]kness and honesty found among the Hungarians and Finns was wanting! Rome turned over only a small part of the cablegrams and radiograms copied in the main telegraph office; Berlin thereupon cut down on the number of telegrams to be copied for Rome. Rome did not answer all questions from Chi in Berlin, Chi in Berlin thereupon postponed the answer to Rome's next inquiry for four weeks. In addition there were internal tensions in the Roman bureau: some of

the people considered General CAMBA too old to be able to collaborate successfully; ostensibly he enjoyed the special personal good will of MUSSOLINI. For that reason it was necessary to show consideration for the old gentleman. The coming Italian catastrophe could already be foreseen but only a very few of CAMBA's collaborators could see this and had the courage to speak of it. Thus the contact with Rome in the final analysis was nothing but a great deed which never got beyond good intentions and not too vigorous beginnings. There is no point to raising the question as to who was to blame since the explanation of this fiasco is obvious: both partners had worked from false assumptions, to wit: Berlin had thought that Rome would do more; Rome had thought that the collaboration with Berlin would render any mental effort of its own unnecessary. Both partners were disappointed in one another, but Roman sensitiveness and Berlin robustness deemed it best not to doctor up this sick organism. Therefore when the collapse of Italy became a certainty, the cryptologic efforts uniting Rome and Berlin had already gone to sleep: for weeks Berlin had sent off no counter post.

Of the personnel of the Italian cryptologic bureau I became acquainted with:

Colonel COSMACINI, Deputy to General CAMBA;

Lawyer Dr. SERRAGLI, worked on Yugoslavia;

Captain DE WITT, worked on French Army (as far as I recall);

First Lieutenant (Res.) LIGI, field not known.

After the collapse of Italy part of the Roman cryptanalytic section went to northern Italy, probably to the Bozen area. I presume that COSMACINI was head of this unit, but it may have been a naval officer, Conte del MESTRI von SCHOTTBERG. This organization attempted to establish contact with OKW/Chi. For this purpose it made use of German naval offices. After brief deliberation [illegible] the point of view that no worth while collaboration with this north Italian cryptanalytic section would be possible because of impending military events, OKW/Chi declined.

In the view of Chi these circles were much less concerned with any productive cooperation than with a dependable living for a few dozen people who would have gotten into very serious straits unless attached to some German unit. The

German Army, however, could have looked out for them and that is what happened. Whatever became of this Italian unit is no longer known to me.

E. Relations with Japan

The Chief of the Japanese cryptologic unit, Colonel HAYASHI, later Military Attache in Budapest, spent some years in Berlin after having been fortunate enough to enter Germany on one of the last trains from the East. His visit had not been expected because no one believed in any possibility of collaboration with Japan, a thing which seemed impracticable without constant contact with Tokyo. I have already mentioned elsewhere that HAYASHI brought along the Brown and Gray Codes,[6] and thus tried to prove in a way his readiness to collaborate honestly. There was no doubt as to the honorable intentions of both parties, but this was not sufficient to create the prerequisite for a profitable collaboration. In the first place it was not very easy to deal with HAYASHI because he knew only little German and no other European language; in the second place, in consequence of the lack of constant communication with Tokyo he was practically left up in the air. He, alone without his staff of collaborators, was therefore not a partner of positive value in spite of all the good will. Thus the occasional exchange of ideas was limited to a few questions regarding the Soviet Russian Army cryptographic systems without being able to assume the form of common effort even in this field since there was no Russian traffic from Eastern Asia and therefore a supposed Russian system of the Manchurian Army could not even be tested. Whenever HAYASHI came, he was a welcome guest behind whose pleasant smile one could assume vast knowledge and epoch-making ability, - in such a situation, however, no use could be made of these qualities. I have already reported[7] that, when the Japanese and the German catastrophes were already unavoidable, HAYASHI asked for regular information in the form of the [illegible] messages and that this request was fulfilled. A supplemental observation is in order here. Down to mid-summer of 1944 the

6. Oral interrogations (TICOM/I-200), para. 1.
7. TICOM/I-200, para. 29.

[illegible] [illegible] [illegible] and [illegible] to comply with caution and reservation with Japanese requests and demands to reveal any secret matters. In view of the [illegible] of Japan this attitude was natural for CHI/Chi. On the basis of some event not known to me HITLER then decreed that everything should be shown to the Japanese and brought to their attention without reserve. Nevertheless a question was raised at headquarters regarding HAYASHI's request and, corresponding to the instructions, sensible consideration rather than individual whims were followed in the selection of the decrypted messages to be delivered. Consequently not a single decrypted message was turned over which could have been in any way likely to influence the decision of the Japanese Government or to give the military leaders any hint. The safest place to make the selection of messages was in the archives of Chi, all the more so since, because of our personal relations, the archivist could guarantee me that no mischief would be caused by the delivery of the decrypted messages.

Aside from HAYASHI I became acquainted with: Major Lieutenant Colonel, HIGHI regarding whom I assume that he was an assistant to the Military Attache, also an officer SANIFAI whose functions I did not know. He occasionally fetched from my anteroom the decrypted messages picked out for the Japanese. Once only did I exchange a few perfectly innocuous words with the Military Attache himself, that was early in 1945. After the end of February 1945 I heard nothing more of any of the Japanese. If I were to characterize the collaboration with the Japanese cryptanalytic unit, I should have to content myself with the observation that despite good will on the part of both partners any real basis for collaboration was entirely wanting.

F. Relations with Croatia

Even the independent state of Croatia entertained the idea of setting up a cryptologic [illegible] Forces with cryptographic systems and to decrypt foreign Army and diplomatic messages. It was not quite clear what the Croatian General Staff wanted to do. Consequently in the autumn of 1942 I was sent to Agram[8] to learn details and make a report. The first demand of the

8. Alternate name for Zagreb [Editor's note].

Croatians ran to provide the small Croatian Army with a suitable crypto-graphic system. I could merely take note of this request since compliance did not fall within the competence of OKW/Chi. No less keen was the interest in a Croatian cryptanalytic unit patterned after OKW/Chi. Over against the good will and the enterprising spirit of the young officers stood, to be sure, the doubts of the old officers who not without reason looked at the reverse of the medal: the financial costs of such an organization! For the financial condition of the little country was already then greatly strained and constant unrest endangered all normal trade and commerce. But even if money had been available most abundantly, the time was as unfavorable as possible for founding such a unit: Croatia had no receivers and did not have the other equipment necessary to intercept, forward, and work on the messages of foreign governments. There is no question but that some young and some old officers would have been ready to work in the cryptanalytic unit; but then the young ones would have been missing in the field and the older ones on the staffs, or else the state treasury would again have been heavily burdened because the demand for well paid work appropriate to a person's station was very great. And even if all that could have been taken care of, they lacked all personnel for an intercept service. Now the primary thing with any cryptanalytic unit is the procurement of messages without which the cleverest cryptanalyst can do nothing. And with the best of will such an organization cannot be raised from the ground by a stamp of the foot. Though the younger generation might reproach the older officers with apathy and the cautious generals, who all came from the old Austro-Hungarian Army, might chide their younger comrades for being hot-headed, neither of these points of view was decisive but solely the fact that without an established intercept service no adequate interception of messages is conceivable and therefore [illegible] and slowly die for want of material to work on.

I do not remember the names of the Croatian officers whom I met at that time and I have never heard anything more of these people.

G. Relations with Bulgaria

Shortly before the closing of the [Iron ?] Gate, in the autumn of 1943, there appeared in Berlin a commission of Bulgarian officers and non-commissioned officers with a request that these men be initiated into the secrets of cryptanalysis. Bulgaria had repeatedly made such advances earlier and sent a staff officer MICHAILOFF to Chi to have the solution of Roumanian Government telegrams explained to them. This explanation was given, also an introduction to cryptology; but nothing was correctly understood because we could regularly see from later inquiries that the fundamentals of the Roumanian reencipherment had not been grasped. This commission, under the leadership of an able Major of the General Staff, made a very much better impression. It is true that the visit of these gentlemen did not please us, but since the Attache group had approved the visit we had to make the best of it. Therefore the order was given to explain to these men in a short survey the systems of cryptography and to touch upon the most general principles of cryptanalysis; likewise, at the special request of the Bulgarian General Staff the principle of solving Yugoslav Government systems. The lectures lasted some eight days all told. As was to be expected, collaboration was planned. Of course, the Bulgarians had been told, in agreement with the Foreign Office, that the actual decipherment of foreign diplomatic messages was done only in the Foreign Office and that therefore any questions regarding direct collaboration must be addressed to the Wilhelmstrasse. Chi had expressed its readiness, however, to assist with advice on organization inasmuch as foreign Army systems were not worked on at OKW/Chi but at the Army cryptologic bureau. Well, the Bulgarians obviously no longer needed advice in the matter of organization or else they had already convinced themselves that no cryptanalysis is possible without an accurate intercept service, - [illegible] inquiry came from Sofia and I have never heard anything more regarding the gentlemen of this commission whose names I have also not retained. Judging by the state of developments it was clear that Sofia like Agram did not possess even the nucleus of a cryptanalytic unit of its own.

H. Relations with Roumania

Reports to the effect that Bucharest had a cryptanalytic unit after the type of OKH/Chi never reached me. The Government cryptographic systems were so poor for two decades that one cannot assume there was any cryptologic unit to give advice. I assume that the German Army cryptologic bureau was obliged to intervene in the cryptographic work of the Roumanian Army and that in this way some influence was exerted on the Roumanian Army but nothing ever became known to me regarding the fact and the extent of such cooperation.

I. Relations with Spain

I have already reported that during the Spanish Civil War there were connections between German volunteer cryptanalysts and a Spanish cryptanalytic unit but that I am unable to say anything regarding the extent or the intensity of these relations because the volunteers were neither subordinated to me nor were they obligated to give me any account of their activities.[9] I know that at that time work was done primarily on cryptographic systems of the Reds and that in most cases these were solved. For none of these systems could be considered up to date in a cryptologic sense. They were limited to all sorts of substitutions and primitive transpositions but it never happened that the Legion Condor requested the cryptologic bureau of the German Ministry of Defense to work on an unsolved Red cryptographic system. Later on inquiries came occasionally from Spain which regularly had to do with French Government plain codes, e. g., the table of indicator groups, or the query whether Berlin was reading a certain type of system. If I asked about the source of the inquiry I was given the name SARMIENTO, ostensibly an officer of very chivalrous spirit and excellent social form. However, I never found out whether Madrid was doing cryptanalytic work and, if so, at which Government office or which section of the General Staff. On the basis of the [illegible] assume as certain the existence of a Spanish cryptanalytic unit but I am likewise inclined to assume that this Spanish unit limited itself to work on French

9. FICOM/I-200, para. 1.

Government cryptographic systems and in this field gave preference to plain codes. I myself have never been in Spain and have never become acquainted with any Spaniards.

J. Relations with Esthonia

In the mid 30's there were relations between Chi and the Esthonian cryptanalytic unit. How these connections were brought about is unknown to me since I had no part in the event. Some time later, however, two Esthonian officers were detailed to me and worked in the Russian section. They worked on Army systems of the Soviet Army. The names of these Esthonian officers were OUN and KALMUS. I think they were both First Lieutenants. Both were far from unskillful, but OUN was considered the more gifted. As far as I can recall, work was being done at that time on small code books with partial reencipherment by means of digit substitution tables. I think the little code books had a total of 1,000 groups. Of the three digits of each group not all were reenciphered. The traffic, so far as I know, was not exchanged with Reval but code groups, reencipherments and important observations probably were, so that the relations were quite profitable; when Esthonia fell into the hands of Soviet Russia, OUN supposedly went to Helsingfors; what became of KALMUS I do not know. After that I gave no more thought to the Esthonian cryptanalytic unit and never heard anything more of it. So far as I can judge, not merely the official relations were good but likewise the personal relations. For my superiors went to Reval repeatedly and always spoke with praise of the hospitality of the Esthonians.

K. Concluding Remarks

In the relations between Berlin and foreign cryptographic units, Chi Berlin indisputably represented the center which set the pace. Stated more exactly: I do not venture to estimate the influence of the other groups and sections of OKW/Chi on the cryptoservice of friendly countries but in the field of cryptanalysis Chi was the important center and its judgment was considered final and valid. This also explains the fact that the attempt of the above-mentioned cryptologic bureaux to work directly with one another by passing Chi Berlin had no success. It became known to Chi for instance that Colonel von PETRIKOVITS (Budapest) went to Helsingfors to see HALLAMAA, nor did it remain a secret that

Michael ERCIC (also Budapest) went to Rome and that SEIFERT (Vienna) contacted Budapest directly during the Schuschnigg crisis, - Chi let all this happen since the mere position of Berlin as communications center gave Chi such superiority with respect to traffic that each of the cryptologic bureaux of the Allied States was forced to get in direct touch with Berlin again. Chi had a direct telegraphic connection with the cryptologic unit in Budapest; HALLAMAA could also be reached in a few minutes. In view of a technical connection which functioned in this way, what was the significance of an attempt to establish direct contact between Budapest and Helsingfors? The latter could not get beyond initial stages without again requesting the aid of Berlin at the first opportunity. But quite apart from the advantages of its traffic position, it was the precision of the work of the cryptanalysts, their diligence, and the speed with which current tasks were disposed of and every inquiry, even apparently unimportant ones, were answered, which gave the cryptanalytic section of Chi the dominant position which it enjoyed for two decades among the "Axis Powers". Among them Chi was the power source from which cryptanalytic effort emanated and to which cryptanalytic effort returned.